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ABSTRACT

Principles are established for reaching valid decisions as to whether evaluative judgments should be norm referenced or criterion referenced. A set of decision rules is presented, in flow chart form, to serve as a guide to the decision-making process. The use of these decision rules is illustrated for a variety of practical situations. The evaluative framework is founded upon credible principles of teaching and a precise language of curriculum and instruction. These bases include the pragmatic, conceptual, and value aspects of education. (RC)

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THE LOGIC OF EVALUATION:
NORM- OR CRITERION-REFERENCED JUDGMENTS

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INTRODUCTION

The Problem And Its Significance

In many practical evaluative situations, a decision must be made as to whether an evaluative judgment of pupil performance should be a criterion-referenced judgment or a norm-referenced judgment. The question with which this paper is concerned is: *How can a justified decision be made as to which is the appropriate frame of reference?*

The authors' intention is to establish credible principles for reaching, in every relevant decision-situation, a valid decision as to whether an evaluative judgment of pupil performance should be norm-referenced or criterion-referenced.

It is believed that the decision rules developed here can provide sound bases for practical judgments in an area where judgments are ordinarily made in the absence of appeal to credible principles. As an auxiliary outcome, the complete range of pupil evaluations of relevance to the curricular and instructional enterprise will be delineated.

The Organization Of This Paper

Achievement of the stated purpose will be accomplished through the following course of action. First, concepts of criterion-referenced tests and norm-referenced tests will be clarified;

and the concepts of criterion-referenced judgments and norm-referenced judgments will be clarified.

Second, the nature of a curricular framework for evaluative judgments will be described, and significant interrelationships within that framework will be identified. Also, the nature of a curricular-free framework for evaluative judgments will be described. The range of evaluative judgments in reference to pupil performance will be delineated for each type of framework.

Third, the logic of the decision as to whether a judgment should be criterion-referenced or norm-referenced will be set forth, and its utilization illustrated for all possible decision situations.

Fourth, some concluding statements will be made to illuminate or extend fundamental aspects of the outlined principles.

THE CONCEPTS OF CRITERION-REFERENCED AND NORM-REFERENCED

Criterion-Referenced Tests And Norm-Referenced Tests

The primary difference between criterion-referenced tests and norm-referenced tests lies with the manner in which the tests are constructed (i.e. the construction of the test items). Criterion-referenced tests consist of items, each of which is logically valid in reference to some set of concepts or statements. For example, the test items may be constructed in reference to a set of explicitly stated objectives.

Norm-referenced tests consist of items selected from a pool of items on the basis of item statistics obtained by item try-outs on relevant groups of students. Such tests generally contain items which require performance beyond, as well as below, the expected level of performance for the intended population. The items are constructed and selected so as to maximize the range of scores made by a given group of students; hence, they represent gradations in knowledge or skills relevant to the instructional unit.

A test is used as a device to elicit relevant pupil performances. A set of sentences describing the way a pupil performs on a test may appropriately be viewed as a report of the observed performance of that pupil. The process of making evaluative judgments about such reports of observed pupil performance is the focal point of the following section.

Criterion-Referenced Judgments And Norm-Referenced Judgments

The primary difference between criterion-referenced judgments of pupil performance and norm-referenced judgments lies with the bases in which the judgments are grounded. A criterion-referenced judgment of the performance of a pupil is made by comparing reports of the observed performance of that pupil against a set of statements from which the desired manner of performance can be derived. That set of statements, or some set of derived statements, constitute the "criteria" which form the frame of reference for the judgments; hence the label "criterion-referenced judgments."

A norm-referenced judgment of the performance of a pupil is made by comparing reports of the observed performance of that pupil against a set of observation reports of the performances of other pupils. The set of observation reports of the performances of other pupils constitute the "norms" which form one aspect of the frame of reference for the judgments; hence the label "norm-referenced" judgments. Of course, no judgment of the performance of a pupil can be made in reference to norms without appeal to values, ethical rules, or some kind of principles as the grounds for judging the relationship between the individual performance and the "norm;" in this sense the use of criteria in making evaluative judgments can never be evaded.

CURRICULAR AND CURRICULUM-FREE FRAMEWORKS FOR EVALUATIVE JUDGMENTS

The Nature Of A Curricular Framework For Evaluative Judgments

The Structure Of A Curricular Framework

Adequate curricular representation requires articulation of goals, procedural rules, and qualifying conditions. Curricular goals represent the ends to be achieved by the students. Curricular procedural rules represent the means by which those ends are to be achieved. They specify the basic substantive or content elements with which instructors and students will deal; and the manner in which the instructors and students will deal with those substantive elements and the way they will relate to each other as well. The qualifying conditions represent student characteristics believed necessary in order to achieve the goals, through implementation of the procedural rules.

The relationship between a goal-component (ends), a rule-component (means), and a qualifier-component (conditions under which the means are believed effective for achieving the ends) constitute a claim. This kind of claim will be called a *curricular claim*; and its generalized form may be represented as follows:

Generalized Curricular Claim

*For each pupil X, where X satisfies conditions C;
If both the teacher(s) and a set of pupils,
of which X is a member, act under rules R,
then X will (probably) attain goal-state S.*

The ends, means, and qualifier components of a curricular claim will be called, respectively: *curricular goal-state*, *curricular rules*, and *curricular qualifying conditions*.

The curricular rules leave both teacher and pupil some degrees of freedom to determine the way in which their individual acts will be performed. The teacher develops strategies for influencing the pupil toward goal-state attainment, and adapts these strategies in response to the patterns of individual pupil acts. Of course a given strategy is reasonable only if the teacher believes that, under the existing circumstances, implementation of that strategy will lead to achievement of certain ends. This entails the requirement that a teacher's strategy must be imbedded within the rule component of some claim that the teacher has reason to believe is valid. This sort of a claim will be called an *instructional claim**, whose generalized form may be represented in the following way:

Generalized Instructional Claim

*For each pupil X, where X satisfies conditions I,
If the teacher(s) acts under rules T, in relation
to a set of pupils of which X is a member,
then X will (probably) attain goal-state G.*

The ends, means, and qualifier components of an instructional claim will be called, respectively: *instructional goal-state*, *instructional rules*, and *instructional qualifying conditions*.

* The concepts of "curricular claim" and "instructional claim" are discussed further in "The Validation Of Educational Programs," by Emajean McCray and John Lottes, a paper presented at the 1976 AERA conference.

*The Range Of Evaluative Judgments
In Reference To A Curricular Framework*

Under the preceding curricular framework, the types of evaluative judgments to be made can be categorized as follows:

(1) judgments of student performance in reference to the curricular qualifying conditions, (2) judgments of student performance in reference to the curricular rules, (3) judgments of student performance in reference to the curricular goal-state, (4) judgments of student performance in reference to the instructional qualifying conditions, and (5) judgments of student performance in reference to the instructional goal-state.

The Nature Of A Curricular-Free Framework For Evaluative Judgments

The Meaning Of Curricular-Free Framework

All judgments of student performance can be described as belonging to a universe of evaluative judgments made in reference to student performance. One class of judgments of student performance was described in the previous section; namely, judgments in reference to a curricular framework. All judgments of student performance, which are not made in reference to a curricular framework, are made in reference to some other framework which is grounded outside the curricular framework. All such extra-curricular frameworks for evaluative judgments will be called *curricular-free frameworks*.

The Functions Of Curricular-Free Frameworks

Judgments governed by curricular-free evaluative frameworks are often made about student performances. These judgments are of varying kinds and can be categorized loosely as follows: (1) assessment of pupil performance to determine educational institutional status and (2) assessment of pupil performance to determine individual status.

Assessment of pupil performance to determine educational institutional status may be conducted in reference to a school, district, state, regional or national level educational system. This category would include the assessment of the strengths and weaknesses of a particular school or of the schools in a particular geographic area; as well as the assessment as to whether a particular school or group of schools is effective in influencing student attainment of institutional goals.

Assessment of pupil performance to determine individual status would include (a) the determination as to whether an individual attained institutional goals and (b) the determination of individual strengths and weaknesses. The latter aspect would include the diagnosis of individual learning problems which is a type of judgment often conducted outside the curricular framework. Such diagnosis might yield evaluative judgments as to physical defects, sensory processing weaknesses, psychological abnormalities, and so forth.

The determination of individual strengths and weaknesses would also include judgments made in the selection of personnel (or students). This process could involve the selection of students for entry into college, special programs (i.e. special education, vocational education, programs for the gifted, etc.) or particular jobs based upon student performance which is curricular-free.

*CRITERION-REFERENCED OR NORM-REFERENCED JUDGMENTS:
THE LOGIC OF THE DECISION*

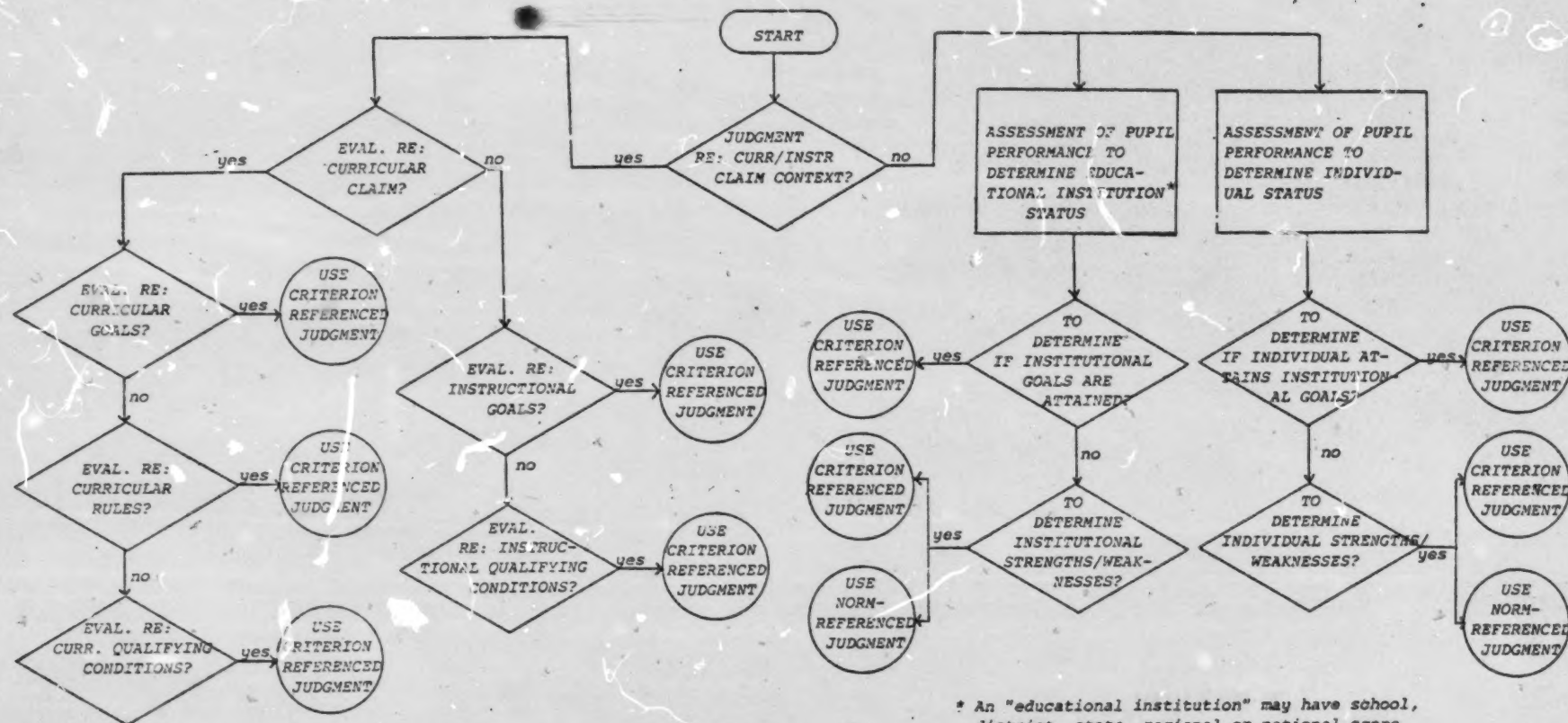
The decision rules for determining whether a judgment should be criterion-referenced or norm-referenced are shown in CHART A. These decision rules provide the basis for making rational decisions concerning a wide range of practical educational situations.

Evaluation within the curricular-instructional claim framework involves judgments which are made against specific criteria. This situation results from the fact that all activity in the curricular-instructional realm is goal directed and governed by rules which apply only when specified guidelines or conditions are satisfied.

Diagnosis of an individual may be conducted within the curricular framework or within a curricular-free framework. When diagnosis occurs within a curricular framework, the evaluative judgments are criterion-referenced, i.e. they are based upon specific criteria given by some component of the curricular framework.

Diagnosis of individual pupil performance in the curricular-free framework should be included in the assessment of individual strengths and weaknesses (see CHART A), and should require a criterion-referenced judgment. This same category (i.e. "To

CRITERION- OR NORM-REFERENCED EVALUATIVE JUDGMENTS OF STUDENT PERFORMANCE:
THE LOGIC OF THE DECISION



* An "educational institution" may have school, district, state, regional or national scope.

CHART A

determine individual strengths and weaknesses") also includes judgments made about individuals for the purpose of counseling or job selection. These judgments could be either criterion-referenced or norm-referenced depending upon the purpose. For example, a student might be selected for a particular job because of performance judged in reference to a job analysis (i.e. criterion-referenced judgment); whereas in another case a student might be selected for a particular job based on judgments of performance relative to that of other students (i.e. norm-referenced judgment).

CONCLUDING STATEMENTS

This paper has described the nature of a curricular framework as well as that of a curricular-free framework for evaluative judgments of student performance. The range of evaluative judgments in reference to pupil performance was delineated for each type of framework. The logic of the decision as to whether a judgment should be criterion-referenced or norm-referenced was set forth in flowchart form; and included a wide range of practical decisions encountered by educators.

Evaluative judgments within the curricular-free framework can be either criterion-referenced or norm-referenced. However, there are no intra-curricular judgments which may be norm-referenced. All evaluative judgments of student performance within the curricular framework are criterion-referenced because they are based upon specific criteria given by some component housed within the context of a curricular claim.